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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/040,253

10/25/2001

George G. Mueller

C01104/70002 RFG

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7590

02/28/2003

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EXAMINER

PHILOGENE, HAISSA

ART UNIT

PAPER NUMBER

2821

DATE MAILED: 02/28/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/040,253

Applicant(s)

MUELLER ET AL.

Examiner

Haissa Philogene

Art Unit

2821

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 October 2001.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-43 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 42 and 43 is/are allowed.
- 6) ☒ Claim(s) 1-34 and 38 is/are rejected.
- 7) ☒ Claim(s) 35-37 and 39-41 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 July 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 9, 10.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-16, 18, 19, 27 and 28 are rejected under 35 U.S.C. 102(b) as being anticipated by Hed, Patent No. 5,301,090.

As per claim 1, Hed discloses in Fig.1 and 8A an apparatus comprising a pool 120 to contain a liquid (water); and at least one light source (6-8) in luminaire 1, supported by the pool and to illuminate the liquid, and the at least one light source including at least one LED (see Col.6, lines 8-10).

As per claims 2-6, Hed further discloses the pool 120 including at least one wall (123, 124), and the at least one light source supported by the at least one wall via bundles (132, 133, 134); said pool 120 including a floor (121); and the at least one light source 5 supported by the floor via (130, 128, 129); said pool 120 with a tub 121 capable of having a range of typical liquid levels of the liquid during use, and the at least one light source in the luminaire capable of being immersed in water, i.e., capable of being, by definition, disposed below the range of typical liquid levels (water levels) or submerged in the liquid (water) and capable of being freely washed readable as having waterproof surface (see Col.14, lines 45-46) .

Art Unit: 2821

As per claims 7-9, Hed discloses the at least one light source (6-8) being adapted to generate radiation of different colors (Col.3, lines 31-32); the at least one LED (6-8) including at least two differently colored LEDs or at least one red LED, at least one green LED, and at least one blue LED (see Col.4, lines 64-67).

As per claims 10-12, Hed discloses the at least one light source or LED (6-8) in each luminaire (20-22) capable of being independently controllable LEDS or light sources (see Col.7, lines 63-67) readable as independently addressable light sources.

As per claims 13-14, Hed further discloses the at least one light source (71-73) being adapted to generate a remotely controllable variable radiation output via controller 83 (see Fig.5).

As per claims 15-16, Hed discloses the at least one controller 83 being adapted to control a color or an intensity of the radiation output by the at least one light source 71-73 (see Col.12, lines 13-16 and also Col.5, line 66-Col.6, line 7).

As per claim 18, Hed discloses the controller 83 outputting a control signal to the at least one light source (71-73) to control the radiation output thereby, said controller generating said control signal readable as a variable analog signal (see Col.9, lines 57-59).

As per claim 19, Hed discloses the light source (71-73) including each at least a first LED and a second LED (see Col.11, lines 6-7 and 18-19), the first and second LEDs having different colors (see Col.11, lines 4-5) ; and the at least one controller (52 or 83) capable of controlling a first intensity of the first LED and a second intensity of the second LED (see Col.9, lines 57-58 and 65-67).

Art Unit: 2821

As per claims 27 and 28, Hed discloses the claimed method to coincide the apparatus as explained above.

Claims 22, 23, 26, 29, 30 and 33 are rejected under 35 U.S.C. 102(b) as being anticipated by Evans, Patent No. 4,305,117.

As per claims 22 and 29, Evans discloses in Figs. 1 and 2 an apparatus and method thereof comprising a pool 18 to contain a liquid; at least one housing 16 supported by the pool; and at least two independently controllable light sources 34, 46, disposed in a single housing 14 of the at least one housing 16, to illuminate the liquid.

As per claims 23 and 30, Evans discloses an apparatus and method thereof comprising a pool 18 to contain a liquid; and at least one light source 34, supported by the pool, to illuminate the liquid, wherein the at least one light source 34 is adapted to generate radiation of different colors without requiring the use of a color filter (see Col.1, line 60).

As per claims 26 and 33, Evans discloses an apparatus and method thereof comprising a pool 18 to contain a liquid; and a networked lighting system (Fig.3) coupled to the pool to illuminate the liquid, the networked lighting system comprising a first independently controllable light source 34 supported by the pool 18; a first independently addressable controller 116 coupled to the first independently controllable light source 34; at least one other independently controllable light source 46 supported by the pool 18; and at least one other independently addressable controller 118 coupled to the at least one other independently controllable light source 46 and the first independently addressable controller 116.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 17, 20 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hed.

As per claim 17, Hed discloses the claimed invention substantially as explained above. Further, Hed discloses the controller 83 outputting a control signal to the at least one light source (71-73) to control the radiation output thereby, said controller being a modulated controller (see Col.6, lines 49-52) capable of providing a modulated signal. Hed does not specifically disclose the controller providing a PWM signal. However, the examiner takes Official Notice of a well-known controller encompassing PWM function, i.e. capable of providing PWM signal with duty cycle being controlled to predict whether a light output will fall below or exceed a predetermined threshold, thereby broadening the spectrum of the LEDs. Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to well-known the well-known PWM controller into the Hed type system, because it would allow a control of the duty cycle to predict whether the light output will fall below or exceed a predetermined threshold so as to broaden the spectrum of the LEDs, thereby improving the efficiency of the system.

Art Unit: 2821

As per claims 20 and 25, Hed discloses the claimed invention substantially as explained above. Further, Hed discloses in Fig.7 a controller 101 in which illumination programs are embedded or stored, said controller adapted to execute at least one illumination program to inherently control the radiation output by the at least one light source 102-105 (see Col.13, lines 51-52, 55-57 and Col.14, lines 3-11). Hed does not disclose the at least one controller coupled to the at least one storage device. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have the at least one controller being coupled to a at least one storage device, since it has been held that constructing a formerly integral structure in various elements involves routine skill in the art.

Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hed in view of Evans.

Hed discloses the claimed invention substantially as explained above. Hed does not disclose an at least one controller including at least a first controller coupled to the first light source and a second controller coupled to the second light source and wherein each of the first controller and the second controller is adapted to be independently addressable and the first controller and the second controller are coupled together to form a networked lighting system. Evans discloses an apparatus having a networked lighting system (see Fig.3) which comprises a controller system including at least a first controller 116 coupled to a first light source 34 and a second controller 118 coupled to a second light source 46 and wherein each of the first controller and the second controller is adapted to be independently addressable and at least the first controller and the

Art Unit: 2821

second controller are coupled together (as shown) to form a networked lighting system.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to provide the at least one controller as taught by Evans into the Hed type apparatus, because it would allow variation in light intensity produced by the RGB lamps so as to produce color blending in response to received signals, thereby improving the efficacy of the apparatus.

Claims 24, 31 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Evans in view of Chliwnyj et al., Patent No. 5,924,784, cited by Applicant.

Evans discloses an apparatus comprising a pool 18 to contain a liquid; at least one light source 34 supported by the pool to illuminate the liquid; and at least one controller (116-120), coupled to the at least one light source, to control radiation output by the at least one light source. Evans does not disclose the controller being a microprocessor-based controller. However, this feature is well-known in the art as evidenced by Chliwnyj which discloses in Fig.1 an apparatus 8 having a microprocessor-based controller 1 coupled to at least one light source 7a, to control radiation output by the light source, i.e. providing a natural random process that engenders a pleasing, soothing visual effects to a viewer. It would have been obvious to a person having ordinary skill in the art at the time the invention was made to provide the microprocessor-based controller as taught by Chliwnyj into the Evans type apparatus, because it would ensure a natural random process that engenders a pleasing, soothing visual effects to a viewer, thereby improving the efficacy of the apparatus.

Art Unit: 2821

Claims 34 and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Evans in view of Hamos et al., Patent No. 5,117,233.

Evans discloses the claimed invention substantially as explained above. Further, Evans discloses at least one light source (34, 40, 46) adapted to be supported by a pool 18 so as to illuminate with variable color radiation a liquid contained in the pool; and at least one controller (116-120) coupled to the at least one light source. Evans does not disclose the controller controlling at least one other device associated with the one of the pool and the spa. Hamos discloses an apparatus having a controller 13 for controlling at least one other device or blower 45 associated with one of a pool 16 and a spa 12. It would have been obvious to a person having ordinary skill in the art at the time the invention was made to provide the controller controlling at least one other device as taught by Hamos into the Evans type apparatus, because it would allow a bubble action while in the spa or pool, thereby improving the efficiency of the apparatus.

Allowable Subject Matter

Claims 35-37 and 39-41 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 42 and 43 are allowed.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Art Unit: 2821

Ishiharada et al., Patent No. 6,030,108 ; Gustafson et al., Patent No. 5,927,845 ;
Phillips, Patent No. 5,725,761 ; Perling, Patent No. 5,569,371; Campagna et al., Patent
No. 4,394,716; Davis et al., Patent No. 4,844,333; Hancock, Patent No. 4,780,917;
FERENCE et al., Patent No. 5,530,322.

Correspondence

Any inquiry concerning this communication or earlier communications from the
examiner should be directed to Haissa Philogene whose telephone number is (703)
305-3485. The examiner can normally be reached on 6:30 A.M.-6:00 P.M..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's
supervisor, Don Wong can be reached on (703) 308-4856. The fax phone number for
the organization where this application or proceeding is assigned is (703) 305-7722 for
regular communications and after Final communications. The fax number for the
examiner is (703) 746-4054.

Any inquiry of a general nature or relating to the status of this application or
proceeding should be directed to the receptionist whose telephone number is (703) 308-
0956.

hp
February 21, 2003

Haissa Philogene
Primary Examiner
AU 2821
